In the claims:

1. A method for populating a solid surface of a graft or biomedical device with cells:
wherein said method comprises seeding a first population of altered endothelial cells onto said solid surface;
wherein said altered endothelial cells are obtained by genetic engineering techniques; and
said altered endothelial cells exhibit increased cell-to-cell cohesion.

2. The method of claim 1 for populating a solid surface of a graft or biomedical device with cells, said method comprising reducing the amount of dissociation of cadherin from the cytoskeleton of said cells.

3. The method of claim 2, wherein dissociation is reduced by reducing or eliminating the phosphorylation of a molecule associated with the adherens junction between the cells.

4. The method of claim 1 for populating a solid surface of a graft or biomedical device with cells, said method comprising increasing the amount of cadherin per cell.

5. The method of claim 1 for populating a solid surface of a graft or biomedical device with cells, wherein the cells are human vascular endothelial cells, said method comprising increasing the cell-to-cell cohesion of said endothelial cells.

6. The method of claim 5 for populating a solid surface of a graft or biomedical device with human vascular endothelial cells, said method comprising reducing the amount of dissociation of cadherin from the cytoskeleton of said human vascular endothelial cells.

7. The method of claim 6, wherein said dissociation is reduced by reducing or eliminating the phosphorylation of a molecule associated with the adherens junction between the human vascular endothelial cells.

8. The method of claim 7, wherein the molecule associated with the adherens junction is ∃ catenin.

9. The method of claim 7, wherein phosphorylation is reduced or eliminated by applying an amount of an agent that is known to modify said phosphorylation to reduce or eliminate said phosphorylation.

10. The method of claim 5 for populating a solid surface of a graft or biomedical device with human vascular endothelial cells, said process comprising increasing the amount of cadherin per cell.

11. The method of Claim 10, wherein the amount of cadherin per cell is increased by increasing the number of expressible cadherin genes in the endothelial cells.

12. The method of Claim 10, wherein the increased cadherin comprises a eukaryotic cadherin polypeptide.

13. The method of Claim 12, wherein the eukaryotic cadherin polypeptide is a mammalian cadherin polypeptide.

14. The method of Claim 13, wherein the mammalian cadherin polypeptide is a human cadherin polypeptide.

15. The method of Claim 14, wherein the human cadherin polypeptide is selected from the group consisting of an N-cadherin polypeptide, a P-cadherin polypeptide, an E-cadherin polypeptide, and a VE-cadherin polypeptide.

16-22. (canceled).

23. A method to increase cell-to-cell cohesion in human vascular endothelial cells on a graft or biomedical device.

24. The method of claim 23 comprising increasing the amount of cadherin per cell in vascular endothelial cells.

25. The method of Claim 23, wherein the increase in cohesion is achieved by increasing the number of cell surface molecules involved in cell-to-cell cohesion.

26. The method of claim 23 comprising reducing the amount of dissociation of cadherin from the cytoskeleton of said human vascular endothelial cells.

27. The method of Claim 26, wherein the increase in cohesion is achieved by increasing the number of molecules that bridge cadherin to the cytoskeleton.

28-34. (canceled).

35. The method of claim 1, wherein said graft or biomedical device is in contact with an arterial and/or venous system.

36. The method of claim 1, wherein said solid surface is a surface of a graft.

37. The method of claim 36, wherein said graft is a vascular graft.

38. The method of claim 36, wherein said graft is a tubular graft.